Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-16. (canceled)

17. (currently amended) A method for identifying a compound that induces ~~or inhibits~~ the perception of a bitter taste comprising:

(i) contacting [[a]] an isolated cell expressing the TRP8 channel protein of SEQ ID NO: 4 with a test compound and measuring the level of TRP8 activation;

(ii) in a separate experiment, contacting [[a]] an isolated cell expressing the TRP8 channel protein of SEQ ID NO: 4 with a vehicle control and measuring the level of TRP8 activation where the conditions are essentially the same as in part (i); and

(iii) comparing the level of activation of TRP8 measured in part (i) with the level of activation of TRP8 in part (ii),

wherein an increased level of activated TRP8 in the presence of the test compound indicates that the test compound ~~is a TRP8 inducer of~~ induces the perception of a bitter taste~~, and a neutral or decreased level of activation of TRP8 in the presence of the test compound indicates that the test compound is a TRP8 inhibitor of the perception of a bitter taste~~.

18-23. (canceled)

24. (new) The method according to claim 17, wherein said measuring the level of TRP8 activation comprises measuring the level of intracellular Ca^{2+} in the cell.

25. (new) The method according to claim 17, wherein said measuring the level of TRP8 activation is carried out with one or more fluorescence-indicator dyes.

26. (new) The method according to claim 17, wherein said measuring the level of TRP8 activation comprises measuring the membrane potential of the cell.

27. (new) The method according to claim 26, wherein said measuring the membrane potential of the cell is carried out under voltage clamp assay conditions.

28. (new) The method according to claim 26, wherein said measuring the membrane potential of the cell is carried out under patch recording assay conditions.

29. (new) The method according to claim 17, wherein said measuring the level of TRP8 activation comprises measuring the concentration of cAMP in the cell.

30. (new) The method according to claim 29, wherein said measuring the concentration of cAMP in the cell is carried out with a reporter gene selected from the group consisting of chloramphenicol acetyltransferase, luciferase, β-glucuronidase, growth hormone, and placental alkaline phosphatase, said measuring the concentration of cAMP in the cell comprising measuring the activity of the reporter gene.

31. (new) The method according to claim 30, wherein the reporter gene is placental alkaline phosphatase.

32. (new) The method according to claim 31, wherein said measuring the activity of the reporter gene is carried out under colorimetric assay conditions, bioluminescent assay conditions, or chemiluminescent assay conditions.

33. (new) The method according to claim 29, wherein said measuring the concentration of cAMP in the cell is carried out under scintillation proximity assay conditions.

34. (new) The method according to claim 17, wherein said measuring the level of TRP8 activation comprises measuring the level of activation of calcium-dependent downstream messengers selected from the group consisting of phosphodiesterases, phospholipases, and ATPases.

35. (new) The method according to claim 17, wherein said measuring the level of TRP8 activation comprises measuring the level of TRP 8 protein present in the cell.

36. (new) The method according to claim 17 further comprising:

providing a nerve, and

operably linking the nerve to the cell prior to said contacting,

wherein said measuring the level of TRP8 activation comprises measuring action potential of the nerve.